

What is claimed is:

1. A wireless communication method of performing information transmission in a network including a plurality of communication stations, said station comprising the steps of:

measuring the time when data addressed thereto is received; preserving said measured time; computing a differential time between the time measured when the next data addressed thereto is received and said preserved time; preserving said differential time; computing an average value of said preserved differential time; and controlling standby power at receiving time using said computed average differential time.

2. The wireless communication method according to claim 1, wherein

in said step for controlling said standby power at receiving time, said standby power at receiving time is lowered to enter a sleep state when reception of data is completed and said standby power at receiving time is raised to enter an active state after said average differential time is passed.

3. The wireless communication method according to claim 1, wherein

in said step for controlling said standby power at receiving time, said standby power at receiving time is lowered to enter a sleep state when reception of data is completed and said standby power at receiving time is

raised to enter an active state after said average differential time is passed; and

then if there is no data received, operations of making the differential time, in which the standby power at receiving time is lowered to enter a sleep state, extend to be longer than the previous differential time to again enter the sleep state, and entering the active state again after the renewed differential time is passed are repeated.

4. The wireless communication method according to claim 3, wherein

the maximum value of said differential time is set to be a beacon interval time.

5. A wireless communication method of performing information transmission in a network including a plurality of communication stations, said station comprising the steps of:

measuring the time when data addressed thereto is received; preserving said measured time; computing a differential time between the time measured when the next data addressed thereto is received and said preserved time; preserving said differential time; and controlling standby power at receiving time using the minimum differential time among values of said differential time preserved in the past.

6. The wireless communication method according to claim 5, wherein

in said step for controlling said standby power at receiving time, said standby power at receiving time is lowered to enter a sleep state when reception of data is completed and said standby power at receiving time is raised to enter an active state after said minimum differential time is passed.

7. The wireless communication method according to claim 5, wherein

in said step for controlling said standby power at receiving time, said standby power at receiving time is lowered to enter a sleep state when reception of data is completed and said standby power at receiving time is raised to enter an active state after said minimum differential time is passed; and

then if there is no data received, operations of making the differential time, in which the standby power at receiving time is lowered to enter a sleep state, extend to be longer than the previous differential time to again enter the sleep state, and entering the active state again after the renewed differential time is passed are repeated.

8. The wireless communication method according to claim 7, wherein

the maximum value of said differential time is set to be a beacon interval time.

9. A wireless communication method of performing information transmission in a network including a plurality

of communication stations, said station comprising the steps of:

measuring the time when data addressed thereto is received; preserving said measured time; computing a differential time between the time measured when the next data addressed thereto is received and said preserved time; preserving said differential time; computing an optimal differential time from among values of said differential time preserved in the past using an arbitrary prediction function; and controlling standby power at receiving time using said computed optimal differential time.

10. The wireless communication method according to claim 9, wherein

in said step for controlling said standby power at receiving time, said standby power at receiving time is lowered to enter a sleep state when reception of data is completed and said standby power at receiving time is raised to enter an active state after said optimal differential time is passed.

11. The wireless communication method according to claim 9, wherein

in said step for controlling said standby power at receiving time, said standby power at receiving time is lowered to enter a sleep state when reception of data is completed and said standby power at receiving time is raised to enter an active state after said optimal differential time is passed; and

then if there is no data received, operations of making the differential time, in which the standby power at receiving time is lowered to enter a sleep state, extend to be longer than the previous differential time to again enter the sleep state, and entering the active state again after the renewed differential time is passed are repeated.

12. The wireless communication method according to claim 11, wherein

the maximum value of the optimal differential time is set to be a beacon interval time.

13. A wireless communication apparatus comprising:

a unit for measuring the time when data addressed thereto is received; a unit for preserving said measured time; a unit for computing a differential time between the time measured when the next data addressed thereto is received and said preserved time; a unit for preserving said differential time; a unit for computing an average value of said preserved differential time; and a unit for controlling standby power at receiving time using said computed average differential time.

14. The wireless communication apparatus according to claim 13, wherein

said unit for controlling said standby power at receiving time makes said standby power at receiving time lower to enter a sleep state when reception of data is completed and makes said standby power at receiving time

rise to enter an active state after said optimal differential time is passed.

15. The wireless communication apparatus according to claim 13, wherein

said unit for controlling said standby power at receiving time makes said standby power at receiving time lower to enter a sleep state when reception of data is completed and makes said standby power at receiving time rise to enter an active state after said average differential time is passed; and

then if there is no data received, said unit for controlling said standby power at receiving time repeats operations of making the differential time, in which the standby power at receiving time is lowered to enter a sleep state, extend to be longer than a previous differential time to again enter the sleep state, and entering the active state again after the renewed differential time is passed.

16. The wireless communication apparatus according to claim 15, wherein

the maximum value of said differential time is set to be a beacon interval time.

17. A wireless communication apparatus comprising:

a unit for measuring the time when data addressed thereto is received; a unit for preserving said measured time; a unit for computing a differential time between the time measured when the next data addressed

thereto is received and said preserved time; a unit for preserving said differential time; and a unit for controlling standby power at receiving time using the minimum differential time among values of said differential time preserved in the past.

18. The wireless communication apparatus according to claim 17, wherein

said unit for controlling said standby power at receiving time makes said standby power at receiving time lower to enter a sleep state when reception of data is completed and makes said standby power at receiving time rise to enter an active state after said minimum differential time is passed.

19. The wireless communication apparatus according to claim 17, wherein

said unit for controlling said standby power at receiving time makes said standby power at receiving time lower to enter a sleep state when reception of data is completed and makes said standby power at receiving time rise to enter an active state after said minimum differential time is passed; and

then if there is no data received, said unit for controlling said standby power at receiving time repeats operations of making the differential time, in which the standby power at receiving time is lowered to enter a sleep state, extend to be longer than the previous differential time to again enter the sleep state, and entering the

active state again after the renewed differential time is passed.

20. The wireless communication apparatus according to claim 19, wherein

the maximum value of said differential time is set to be a beacon interval time.

21. A wireless communication apparatus comprising:

a unit for measuring the time when data addressed thereto is received; a unit for preserving said measured time; a unit for computing a differential time between the time measured when the next data addressed thereto is received and said preserved time; a unit for preserving said differential time; a unit for computing an optimal differential time from among values of said differential time preserved in the past using an arbitrary prediction function; and a unit for controlling standby power at receiving time using said computed optimal differential time.

22. The wireless communication apparatus according to claim 21, wherein

said unit for controlling said standby power at receiving time makes said standby power at receiving time lower to enter a sleep state when reception of data is completed and makes said standby power at receiving time rise to enter an active state after said optimal differential time is passed.



23. The wireless communication apparatus according to claim 21, wherein

said unit for controlling said standby power at receiving time makes said standby power at receiving time lower to enter a sleep state when reception of data is completed and makes said standby power at receiving time rise to enter an active state after said optimal differential time is passed; and

then if there is no data received, said unit for controlling said standby power at receiving time repeats operations of making the differential time, in which the standby power at receiving time is lowered to enter a sleep state, extend to be longer than the previous differential time to again enter the sleep state, and entering the active state again after the renewed differential time is passed.

24. The wireless communication apparatus according to claim 23, wherein

the maximum value of the optimal differential time is set to be a beacon interval time.